

Supplemental Material

	Mice	Humans
Heart rate	>300 bpm	70-100 bpm
Total plasma cholesterol	50-100 mg/dl (wild type)	150-300 mg/dl
Major lipoprotein	HDL	LDL
CETP	-	+
Atherosclerosis generation time	Months (genetically modified mice)	Years
Sites of atherosclerosis	Aortic sinus Aortic arch Innominate artery	Aortic arch Carotids Coronary arteries

Table I. Atherosclerosis relevant differences between mice and humans

Atherogenic component	Reference
Macrophages	1, 2
T cells	3-5
B cells	5
Dendritic cells	6
Neutrophils	7
Chemokines	8
Cytokines	9

Table II. Mouse models have been instrumental in examining the role of the immune system on atherosclerosis.

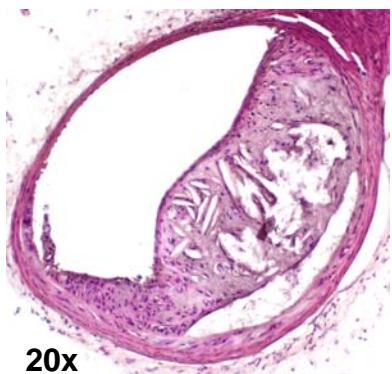
Literature Cited.

1. Ley K, Miller YI, Hedrick CC. Monocyte and macrophage dynamics during atherogenesis. *Arterioscler Thromb Vasc Biol.* 2011;31:1506-1516.
2. Woppard KJ, Geissmann F. Monocytes in atherosclerosis: subsets and functions. *Nat Rev Cardiol.* 2010;7:77-86.
3. Andersson, J., P. Libby, and G. K Hansson. 2010. Adaptive immunity and atherosclerosis. *Clin., Immunol.* 134:33-46.
4. Getz GS, VanderLaan PA, Reardon CA. The immune system and murine atherosclerosis. *Curr Drug Targets.* 2007;8:1297-1306.
5. Lahoute C, Herbin O, Mallat Z, Tedgui A. Adaptive immunity in atherosclerosis: mechanisms and future therapeutic targets. *Nat Rev Cardiol.* 2011;8:348-358.
6. Koltsova EK, Ley K. How dendritic cells shape atherosclerosis. *Trends Immunol.* 2011;32:540-547.
7. Baetta R, Corsini A. Role of polymorphonuclear neutrophils in atherosclerosis: current state and future perspectives. *Atherosclerosis.* 2010;210:1-13.
8. Zernecke A, Weber C. Chemokines in the vascular inflammatory response of atherosclerosis. *Cardiovasc Res.* 2010;86:192-201.
9. Ait-Oufella H, Taleb S, Mallat Z, Tedgui A. Recent advances on the role of cytokines in atherosclerosis. *Arterioscler Thromb Vasc Biol.* 2011;31:969-979.

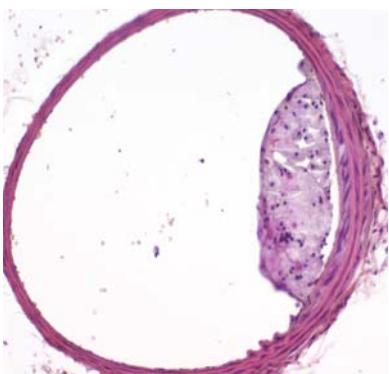
Figure Legend.

Figure I. Atherosclerotic lesions in the innominate artery and aortic root sinus associated with the left coronary artery (LCS) in mice exposed to approximately the same lifetime burden of plasma cholesterol (9,377- 12,523 mg/dl). The chow fed apoE-/- mice were sacrificed at 27 weeks of age and had average plasma cholesterol levels of 464 mg/dl. The apoE-/- and LDLR-/- mice fed WTD for 6 weeks were switched to the diet at 8 weeks of age (14 weeks at time of sacrifice). The average plasma cholesterol levels on WTD were 1,095 mg/dl for apoE-/- mice and 1,255 mg/dl for the LDLR-/- mice. Note that the lesions in the WTD fed mice are richer in macrophage foam cells, especially in the case of the LDLR-/- mice, while the lesions in the chow fed apoE-/- mice are much more complex and cellular, with notable necrotic cores and presence of cholesterol crystals.

**ApoE-/-
Chow 27 weeks**



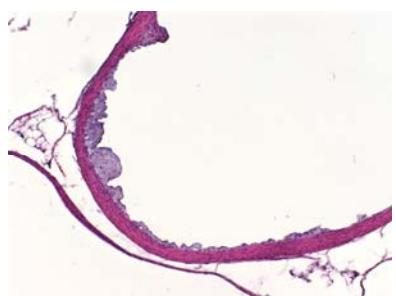
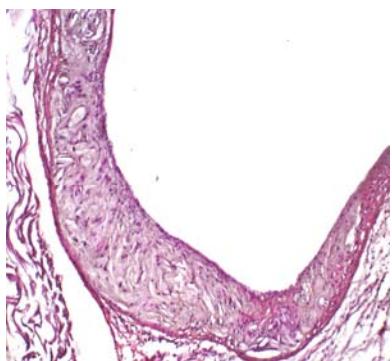
**ApoE-/-
WTD 6 weeks**



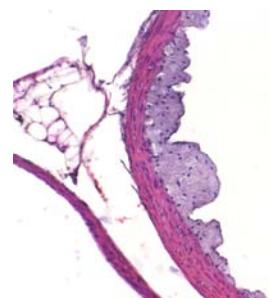
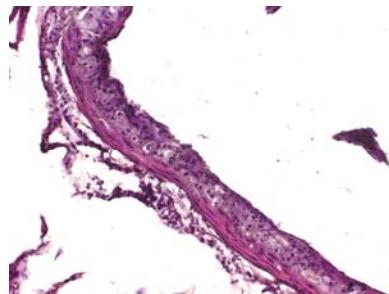
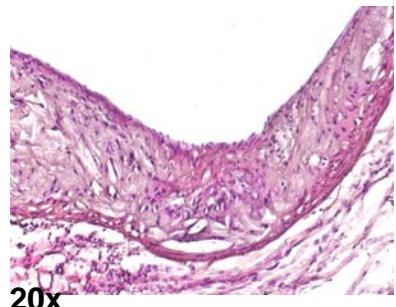
**LDLR-/-
WTD 6 weeks**



Innominate Artery



10x



20x